From: Stephen Satchell
To: Microsoft ATR
Date: 1/23/02 4:11pm
Subject: Microsoft Settlement

Ms. Hesse,

Attached are my public comments regarding the Revised Proposed Final
Judgement in US v Microsoft, Civil Action No. 98-1232. The attached
document is in PostScript Document Format (PDF) named "satch-98-1232.PDF"
that is readable by using the free reader available at www.adobe.com.

A paper copy will arrive via Federal Express in the next couple of days.

If you have any questions, please use this electronic mail address to write.

Stephen Satchell
Incline Village, NV

CC: microsoft.atr@usdoc.gov@inetgw

PO Box 6900
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January 23, 2001

Renata B. Hesse, Trial Attorney
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Antitrust Division
United States Dept. of Justice
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Submitted via electronic mail to microsoft.atr@usdoc.gov
Submitted via electronic mail to microsoft.atr@usdoj.gov
Submitted via Federal Express to the address above

Comment of Stephen T. Satchell of Incline Village, NV regarding the Revised Proposed Final Judgment In United States v. Microsoft Corporation

1   1.   Commenter is submitting to you this public comment in
2   the matter of the proposed settlement in District of
3   Columbia in United States v. Microsoft Corporation,
4   Civil Action No. 98-1232.

5   2.   This comment is written in response to the information
6   published Wednesday November 28, 2001, in the Federal
7   Register, Vol 66, No. 229, on pages 59452-59476
8   inclusive. This comment is being delivered by
9   electronic mail to the electronic mail address
10   specified in the Federal Register,
11   "microsoft.atr@usdoc.gov", and to the electronic mail
12   address specified on the Department of Justice
13   website, "microsoft.atr@usdoj.gov", before the sixty-
14   day deadline of Friday January 25, 2002.

15 3.   Commenter Satchell has been a professional software
16   and system developer since 1971, and a professional
17   writer of non-fiction magazine articles about the
18   computer industry and its products since 1984. He has
19   fulfilled a number of roles during his 30-year career:

1   programmer, architect, project manager, software test
2   manager, quality assurance test programmer, benchmark
3   writer, product reviewer for publication, and magazine
4   technical editor. During his career he has been a
5   voting member of the Association for Computing
6   Machinery (ACM) and an associate member of the
7   Institute of Electrical and Electronic Engineering
8   (IEEE). For virtually all of his professional career,
9   his work on software and system products, product
10   components, and documents and articles has been for
11   resale or for general publication.

12   4. Commenter Satchell is not a lawyer, nor has he
13   received any legal training. This Comment was
14   composed by Commenter exclusively, with no input or
15   review by any lawyer or paralegal. Therefore,
16   Commenter assumes that the contents of this Comment
17   will be interpreted by the reader(s) according to non-
18   legal English language usage.

19   5. In the context of this comment, the term "
20   refer to the Revised Proposed Final Judgment submitted
21   to the Court on November 6, 2001, and reprinted in the
22   Federal Register, Vol. 66, No. 229, starting in column
23   2 of page 59453; the term "CIS" shall refer to the
24   Competitive Impact Statement submitted to the Court on
25   November 15, 2001 and reprinted in the Federal
26   Register, Vol 66, No. 229, starting in column 1 of
27   page 59460.

28   A.   Summary of Comments

29   6. The Commenter believes that the RPFJ as published does
30   meet the needs for a suitable remedy according to the
31   letter of the original Complaint, the Findings of
32   Fact, and the Conclusions of Law (as amended by the
33   Appeals Court)

34   7. The RPFJ falls short in several areas in serving the
35   public interest as required by the Tunney Act in 15
36   U.S.C. 16(e)(2).

8. The RPFJ does not meet the public interest requirement
    of 15 USC 16(e)(2) by failing to define the scope of
    the remedy to cover <u>all</u> portions of the software
    marketplace as it existed in 1999, as it exists today,
    and as it is reasonably expected to exist over the
    life of the RPFJ.

9. This failure to include the entirety of the software
    marketplace leads directly to an explicit narrowing of
    choice available to the consumer of software products
    to those products produced by commercial enterprises,
    of Defendant-mandated size and structure to have
    standing (as defined in the RPFJ) in any complaint of
    violation, and in some cases that meet Defendant-
    imposed requirements on business structure and
    success.

10. The original <u>Complaint</u>, filed by the United States,
    limits its discussion of the software marketplace to a
    subset of that marketplace, the large-company
    commercial sector. There is no substantive
    discussion, recognition, or consideration of the
    alternative commercial sector, the cooperative sector,
    the in-house sector, and the non-commercial sector of
    the software marketplace in the original <u>Complaint</u>.

11. Unlike virtually every other product marketplace in
    the United States, the computer software marketplace
    has significant segments that sell, rent, lease, or
    license software products for consideration other than
    money. This marketplace segment has a long history
    dating back to the 1950s, when computers were first
    introduced into the economy. The distribution of
    software without the direct exchange of money is still
    commonplace today. In some cases, the exchange is by
    barter, however informal. In other cases, the
    exchange is without any commitment on the part of the
    receiver in any way; at the extreme, software is put
    into the public domain, to be used by anyone in any
    way without limitation. The RPFJ specifically

1 excludes this segment of the market from consideration
2 and protection from violations by the Defendant.

3 12. The development of software products by software
4   cooperatives has a long and distinguished history.
5   Products produced co-operatively continue to increase
6   in market share. Although I have not seen a "code of
7   guiding principles" for software cooperatives
8   published in the cooperative-software community, the
9   guidelines published by the National Rural Electric
10   Cooperative Association are astonishing parallel to
11   the long-held and well-developed principles that guide
12   software cooperatives. See the Web page
13   <http://www.nreca.org/coops/special.html> for the
14   seven guiding principles espoused by NRECA. The RPFJ
15   specifically excludes software cooperatives from
16   consideration and protection from violations by the
17   Defendant.

18 13. The software marketplace includes software products
19   developed by or on behalf of a single corporation or
20   company (including those not directly involved in
21   computers or software sales in any way) exclusively
22   for its internal use; the intent of such software
23   product development is to enhance the competitive
24   stance of the company in the company's marketplace.
25   During the 1950s, 1960s, and 1970s the in-house
26   software product and the custom software market
27   represented the majority of the software marketplace.
28   A good example of such "in-house" software product is
29   the software used by insurance companies to capture
30   customer information quickly and calculate the best
31   insurance rate, with a minimum of delay, for that
32   customer. This market segment remains strong today,
33   and yields a measurable revenue benefit for the
34   organization putting such software in place, but
35   because there is no direct link between "sales" of the
36   software and profit, the degree of harm is very
37   difficult to calculate. This is another market
38   segment ignored and unprotected by the terms of the
39   RPFJ.

14. The RPFJ as published in the <u>Federal Register</u> makes clear that Defendant Microsoft would be permitted to continue to discriminate with regards to API and network protocol disclosures against authors and entities not meeting Defendant-mandated guidelines for business methods, structure, and level of sales.

15. The texture and composition of the software marketplace continue to change and expand at a rapid pace, far faster than traditional commodity or service industries. In particular, there is a growing trend toward locating applications not on end-user computers, but on servers operated by Application Service Providers (ASPs). Microsoft has announced its intentions to enter this market as part of its dot-NET initiative. The RPFJ fails to meet its public interest requirement by not addressing any aspect of this growing trend.

16. The development cycles for software are very, very short. Software products have cradle-to-grave lifetimes that are measured in months, and some classes of software have useful lifetimes that are measured in intervals as short as hours. Time is the enemy of developers, and very few projects go smoothly in the best of circumstances. The RPFJ recognizes this fact to some extent, but the 30-day response time to all complaints of violation injects a delay that can be fatal to a software project.

17. An alternative complaint process is proposed in this Comment. The basis of the proposal is the establishment of a triage system to quickly dispatch the majority of complaints that are trivial to resolve.

18. In addition, the publication of a "Frequently Voiced Complaint," analogous to the "Frequently Asked Questions" or FAQ that is a staple of Web sites, would reduce the number of complaints that would need to be handled individually by Microsoft, the Technical

1   Compliance Committee, and the Plaintiffs, and can
2   serve to eliminate complaints that would otherwise be
3   filed.

4 19. Commenter does not attribute these failures and
5   shortcomings in the RPFJ to incompetence or connivance
6   on anyone's part. Instead, Commenter recognizes the
7   difficulties the Courts face applying traditional
8   anti-trust law to the software industry. After
9   extensive searching, Commenter has found no anti-trust
10   case in which the affected market has had such a large
11   number of non-commercial and co-operative components
12   as the software industry has.

B.   The Original Complaint Fails to Describe the Entire Software Marketplace

15 20. The term "software" is the generic label used by
16   practitioners in the computer industry to refer to
17   programs that are loaded into computers, when
18   required, in order to instruct the computers how to
19   perform a specific task desired by their users. A
20   program is an ordered list of instructions readable by
21   the computer, telling the computer hardware (in
22   conjunction with instructions permanently recorded in
23   the computer -- "firmware") exactly how to accomplish
24   the task desired by the user.

25 21. A programmer is a person who creates the lists of
26   instructions that comprise a program, and futher
27   determines that the lists of instructions are correct.
28   These lists can be created directly, through
29   intermediate tools that in turn generate lists of
30   instructions, or through interpreters that take lists
31   written in a representation different from that used
32   directly by the computer hardware. Programmers also
33   make extensive use of previously written lists of
34   instruction -- program fragments (functions and
35   subroutines) -- to reduce the effort of creating a
36   complete list of instructions for the computer.

22. The basic principles of programming are simple enough that many practitioners writing programs today were able to teach themselves how to do it, usually in conjunction with a specific set of tools for writing programs. The costs associated with programming have been low enough for the past 30 years that hobbyists and students of the craft proliferated and continue to proliferate. Many professional practitioners today started out as hobbyists.

23. The history of the computer industry as we know it today is littered with stories about the effects of hobbyists, students, and researchers on the growth and maturing of the industry, far too many to relate here. The interested reader is referred to the book <u>Hackers: Heros of the Computer Revolution</u> by Steven Levy (1984, Doubleday, ISBN 0-385-19195-2) for a full discussion of the impact of the hobbyist on the software industry and the software marketplace; the contents of that book are incorporated into these Comments by reference. This book is now available in paperback.

24. There is a initial investment when entering the software marketplace, although the amount of that investment, large in the 1960s, had dropped to under US$300 today. Some early programmers reduced their initial investment by renting time from others, resulting in significant savings over buying the equipment outright. This rental extends to students using University computer systems (for a lab fee) to learn their craft.

25. The actual process of programming is about as difficult and incrementally expensive as writing an essay or brief (small program) or book (large program).

26. For small utility programs and specialty software sold commercially, the cost of marketing, fulfillment, and technical support exceeds, in some cases by orders of magnitude, the cost of initial creation. In short,

1   distributing a product through the traditional retail

2   channel can incur such high costs that the expense

3   prices the software out of the market. The industry

4   responded by developing alternative means of

5   distribution and compensation, means that eliminated

6   the overhead involved in using a traditional sales

7   channel.

8   27.   Among hobbyists, students, researchers, and in-house

9   programmers, many programs were created and

10   distributed without any monetary compensation. The

11   compensation was in the form of credit, and written

12   credit for the creation of the program and

13   modifications to the programs were distributed as part

14   of the program. This is very much like the practice

15   in academe with regards to published papers. The

16   means of distribution varied based on the product

17   audience. Any money paid for such software covered

18   the cost of the media, the cost of copying of the

19   software to that media (as much as $25 in the 1970s

20   for computer time), and the cost of shipping -- also

21   very much like academic paper distribution.

22   28.   Many "free" programs were created and given away by

23   commercial concerns, who originally developed these

24   code fragments to solve specific problems, and thought

25   others could make use of the fragments to solve

26   similar problems. Some of this code was copyrighted,

27   with permission to use without royalty but with credit

28   to the author. Some of this code was donated to the

29   public domain.

30   29.   Several telephone-based systems of networks, the

31   Bulletin Board Systems (BBS) and the Unix UUCP

32   network, reduced the cost of distribution still

33   further and enhanced the exchange of programs and

34   program fragments for the "monetary unit" of credit,

35   not dollars (or francs or pounds or whatever). The

36   growth of commercial nation-wide bulletin board and

37   messaging services such as CompuServe, The Source,

38   BIX, and Prodigy further decreased distribution costs.

1   The Internet today continues to provide a low-cost

2   means of distributing programs of all kinds.

3 30. Researchers have created a number of useful programs

4   in support of their research efforts. Many university

5   and research institutions have collected these

6   programs and made them available -- usually for the

7   cost of duplicating the software onto a medium such as

8   punched paper tape or magnetic tape, later floppy

9   disks, and today CD-ROMs -- for anyone who wants them.

10   Some of these programs have restrictions against

11   commercial sale without proper license. The most

12   notable "program" distributed in this way (via

13   magnetic tape, in 1972) was the Unix Operating System,

14   created by Ken Thomson and Dennis Ritchie at Bell Labs

15   in Murray Hill, NJ.

16 31. The well-established practice of sharing programs

17   without cost gave the early software publishing

18   industry headaches. The time and cost of preparing a

19   program for sale through a traditional distribution

20   channel would cause the publisher to raise the sale

21   price to recoup this cost. The increased price for

22   retail-channel software had an inevitable result given

23   the hobbyist nature of the customer base: for every

24   copy of software sold, there was a good chance that

25   one or more "pirate" copies would be made and used by

26   another person.

27 32. The marketplace developed an alternative to the

28   traditional retail channel. In 1983, PC World

29   Magazine founding editor Andrew Fluegelman wanted to

30   distribute his program "pc-talk", a terminal emulator

31   program he developed for the IBM PC, but without the

32   headaches and overhead of dealing with the retail

33   channel. He created a concept he trademarked

34   "Freeware", in which users can give Mr.

35   program to friends to try out, and if a friend liked

36   it and continued to use the program that new user

37   would send $15 to Mr. Fluegelman in payment for the

38   program. This led to the creation of an alternative

1 commercial software marketplace generically referred
2 to as "Shareware".

3 33. Large software projects are almost never written by a
4   single person, but instead are written by a group
5   working in coordination. A group of students and
6   researchers at the University of California at
7   Berkeley added networking as we know it today to
8   AT&T's Unix system and distributed it under the name
9   "Berkeley System Distribution", or BSD. This
10   development (along with the replacement of AT&T code
11   to eliminate copyright conflicts) later became the
12   core of commercial operating systems, most lately the
13   core of Apple Computer's OS X, as well as the core of
14   freely-distributed version of operating systems.

15 34. There has been a growing trend in group development of
16   software toward co-operative development of software
17   programs by a number of people unrelated by company
18   affiliation, employment, contract, or even country of
19   citizenship. The "apache" Web server program is one
20   such example of a co-operatively developed program,
21   and is very widely deployed on the planet. This trend
22   is the "software for credit" market paradigm writ
23   large, but the added benefit for the participants in
24   co-operative software projects is that each
25   participant gets to use the entire package for the
26   "price" of contributing to its creation.

27 35. Co-operative efforts have a significant history,
28   tracing back to before 1985 and the original
29   development of the software used by the CompuServe
30   Information Service. H&R Block sold computer time on
31   its DEC PDP-10 computers to hobbyists using the trade
32   name "micronet"; a number of the users of that service
33   wrote a messaging system in Fortran to permit them to
34   conduct conversations on H&R Block's computer system.
35   Eventually, H&R Block spun this activity off as a
36   separate business, and handed the maintenance and
37   feature enhancement of that software to a professional
38   group of programmers.

36. In today's computer environment consisting of millions
    of computers (PC, Macintosh, and others) in homes,
    schools, businesses, corporations, and government,
    people tend to lose sight of the fact that the
    software marketplace started as a custom craft
    business. Owners of computers had a team of
    programmers, operators, and consultants to tend the
    Great Beast, to teach it the tricks the company
    wanted, and to wring as much usefulness out of the
    "hunk of iron" -- especially when the computer cost
    millions of dollars initially. Even today, there is a
    very large market consisting of inside-employee
    programmers and consultants who tailor software
    products, write "glue" programs, and in some cases
    create entire custom systems to accomplish the same
    goal; i.e., make the computer work for its owner.

37. The applications provided in the software marketplace
    cover a wide variety of needs, with some of those
    needs being so specialized that the number of units
    that can be distributed into the target market is very
    small. Target markets measured in thousands of units
    are common, and target markets numbered in the
    hundreds, while not common, are by no means unheard
    of. These smaller markets are important despite their
    size; just how many oil refineries or nuclear reactors
    do you think there are, for example, to which to sell
    specialty monitoring programs?

38. Several government institutions have specific needs
    for computing. A number of government institutions
    employ and retain significant numbers of programmers
    working on projects that provide substantial benefits
    for the citizens of our country. To name just a few
    at the Federal level: NSA; NASA; IRS; the Census
    Bureau; NIST; DoD; and DoJ. These and other federal
    departments, bureaus and organizations are part of the
    software marketplace. One example shows how this
    sector of the marketplace has a large impact on the
    overall software market: a commercial product, the
    dBASE data base product, had as its base the

1 "RETRIEVE" database system and the follow-on "VULCAN"
2 system developed at the Jet Propulsion Laboratory.
3 The release of the dBASE package by Ashton-Tate opened
4 a marketplace for database package on micro-computers
5 that still rages today, even as Ashton-Tate is long
6 gone from the software market arena.

7 39. It's clear, then, that the software marketplace
8   consists of a wide range of different types of
9   entities, be they companies, organizations, or
10   individuals. These entities may be classified using
11   several different rules. One classification is by
12   business organization: commercial enterprise,
13   internal development department, co-operative, cottage
14   enterprise, consultant, research organization,
15   government, and hobbyist. Another way to classify an
16   organization is by its target market: mass-market,
17   niche market, custom-software market, and not-for-
18   resale (internal use). Finally, the entities can be
19   ranked by revenue or by user ("seat") counts.

20 40. A complete list of the players in the software
21   marketplace is far broader than the list that appears
22   to be implied by the description in the original
23   Complaint and reflected in the definitions of Section
24   IV of the RPFJ. In the commercial marketplace, you
25   have at least (a) the commercial developers of
26   operating systems, (b) the commercial mass-market
27   applications providers, (c) the commercial niche-
28   market applications providers, (d) the commercial
29   developers of custom-designed and -developed
30   applications, and (e) the consultant. In the non-
31   commercial marketplace, you have at least (f) the
32   corporate in-house developers who create corporation-
33   specific applications, (g) the hobbyist, (h) the
34   researcher (computer and non-computer), (i) the
35   research organizations (again, computer and non-
36   computer), (j) departments of the United States
37   government (DOD, NIST, NASA, and others) who create
38   specialized software and systems, (k) software co-
39   operatives developing competing operating systems, (l)

1 software co-operatives developing mass-market and
2 niche-market applications, and (m) volunteers
3 developing software for not-for-profit organizations.
4 Also included in the software market are the providers
5 of turnkey systems such as database systems, and
6 embedded-computer products for a wide range of
7 industries. (Your modern furnace, microwave oven, and
8 your automobile all have computers, for example.)

9 41. At paragraph 61, the original Complaint states "The
10 first Internet browser widely used by the general
11 public was Netscape Navigator, which was introduced
12 into the market in 1994." That is inaccurate. The
13 first web browser made available to the general public
14 was "lynx", written by Lou Montulli at the University
15 of Kansas and made available to the public in 1993,
16 and ran on a large number of Unix-based computer
17 systems. The University of Illinois National Center
18 for Supercomputing Applications released the graphical
19 browser "mosaic" November 1993; Spyglass, Inc. resold
20 "mosaic" in the commercial market starting August
21 1994. In contrast, Netscape Navigator didn't appear
22 as a product until December 1994.

23 42. The original Complaint describes only a portion of the
24 software marketplace as it existed in 1999 and is
25 expected to continue to exist during the life of the
26 Final Judgement.

27 **C. The RPFJ Fails to Meet the Public Interest**
28 **Because It Does Not Serve the Entire Software**
29 **Market**

30 43. As a consequence of the tunnel vision of the original
31 Complaint and subsequent documents, the RPFJ as
32 published in the Federal Register applies only to a
33 portion -- not the whole -- of the software market as
34 it existed in the year 1999.

35 44. From the Finding of Fact dated November 5, 1999, comes
36 this definition of "Operating System": "… a software

1 program that controls the allocation and use of
2 computer resources (such as central processing unit
3 time, main memory space, disk space, and input/output
4 channels). The operating system also supports the
5 functions of software programs, called 'applications,'
6 that perform specific user-oriented tasks."
7 (paragraph 2)

8 45. From the viewpoint of a computer application and its
9   author(s), an operating system is only as good as the
10   set of applications programming interfaces (APIs) it
11   provides to the programs running within the computer
12   in conjunction with that operating system. The
13   development of applications for a particular operating
14   system is vital to the marketability of that operating
15   system. The better the APIs, the better the
16   applications, and the better the applications the more
17   attractive the operating system is to the market. Not
18   just "commercial applications," but all applications.

19 46. Therefore, the relevant software market that the RPFJ
20   must address is the whole of all entities that write
21   application software, and particularly all entities
22   that write software for the Windows operating system
23   and that interoperate over a network with systems
24   running the Windows operating system.

25 47. Protections against anti-competitive restraint by a
26   monopoly must be extended to all sources of
27   applications, not just some sources, particularly when
28   the monopoly provider of the operating system also is
29   a provider of applications, as Defendant Microsoft is.

30 48. Of all the software market players mentioned earlier,
31   only the larger and well-funded commercial developers
32   and applications providers have the resources and the
33   money-based claims of harm to initiate and participate
34   in anti-trust actions against an operating system
35   company using its monopoly power to control the
36   market. Small commercial companies, non-software
37   corporations, universities, most government

1 departments, software cooperatives, and hobbyists
2 don't have the resources (money, legal talent, and
3 situation) to launch an effective action against a
4 monopoly, and in many cases are unable to prove any
5 harm inflicted by illegal activities by the monopoly
6 because of the legal requirements defining "harm".

7 49. Instead of relieving it, the RPFJ exacerbates this
8 situation. Section III(D), taken in concert with the
9 Definitions of the abbreviations used as defined in
10 Section VI, clearly demonstrates that the only measure
11 of participants in the software marketplace is by
12 software sales revenue.

13 50. Also in the RPFJ, Section III(E) incorporates by
14 reference Section III(I), which permits Microsoft to
15 avoid licensing government, research, and co-operative
16 software enterprises, and particularly those
17 enterprises that don't receive revenue for development
18 or distribution of their software products. As a
19 consequence of the ability to refuse licenses, it is a
20 reasonable inference that disclosure of the APIs and
21 Communications Protocols necessary to interoperate
22 with Windows Operating Systems software could also be
23 withheld.

24 51. Further to the point, Section III(J)(2) can be used by
25 Microsoft to block disclosure of APIs and
26 communications protocols, required by any development
27 of server software that interoperate with Microsoft
28 Windows Products and provide authentication services
29 to Microsoft Windows Products, by entities unable to
30 pay the royalties and meet the other requirements.
31 This specifically affects software co-operatives,
32 consultants, and researchers. Not only does this
33 result directly in loss of choice to the consumer, but
34 it can also slow down the pace of advancement of the
35 art in the industry as a whole.

36 52. By being able to lock out researchers and small
37 developers from effective relief from anti-competitive

1   actions, Microsoft is able to negatively affect
2   independent research into and independent development
3   of improvements in computing on the Windows platform,
4   and the marketing of those improvements to the general
5   public. This places an undue burden on researchers
6   and developers, and serves as a limit to the market
7   and results directly in loss of choice to the
8   consumer.

9   53.   By being able to lock out software co-operatives,
10   government, and hobbyists, Microsoft is able to
11   artificially raise the cost of implementing certain
12   classes of software product to the point that it is
13   economically infeasible for products in those classes
14   to be developed and deployed. This is particularly
15   important given that Microsoft also sells applications
16   as well as operating systems, and, by its withholding
17   critical information on its monopoly product, block
18   the offering of competitive applications. This
19   restraint again results directly in loss of choice to
20   the consumer.

D.   The RPFJ Lets Microsoft Continue To Discriminate Against Authors of Application Software and Network Systems

24   54.   The RPFJ is not the result of bad workmanship.
25   Comparison of the RPFJ with other proposed Final
26   Judgements that have been entered over the years shows
27   that this proposal is very much like the other
28   proposals in general -- only the details differ. The
29   other judgements examined pertained to commodities
30   (Alcoa), consumer goods (Standard Oil) and integrated
31   services (AT&T). In each of these cases, the cost of
32   entry to the marketplace was substantial for all
33   players, and there was no significant non-monetary
34   component to any of the markets affected by the
35   companies in question.

36   55.   The cost of entry into the applications software
37   marketplace is very low, on the order of the cost of

1   entering the business of auto repair, plumbing
2   contracting, or door-to-door sales franchise.

3   56. The cost of entry into the operating systems software
4   marketplace, on the other hand, is very high because
5   of the complexity of developing device drivers,
6   resource managers, and applications services that
7   attract applications programmers to develop software.

8   57. The success of an applications program in competition
9   with similar applications depends on the skill of the
10   author. In particular, the author's understanding and
11   knowledge of the applications program interface (API)
12   of the operating system is crucial to the performance
13   and utility of an applications program to its user.

14   58. Suppression of information about APIs by the operating
15   system vendor to an applications author, especially
16   the hiding of performance-accelerating APIs, would
17   lead directly to putting that author at a disadvantage
18   to an author that is fully informed.

19   59. Any discrimination by a monopoly operating system
20   vendor against authors by business method, size, or
21   exclusivity means that customers of software lose
22   choice in applications software for that operating
23   system.

24   60. The discrimination allowed by the RPFJ against
25   significant participants in the software industry
26   leads directly to limitation of choice for the
27   consumer. It's not enough that the Final Judgment
28   protect large companies against the actions of
29   Microsoft; the Final Judgment needs to protect all
30   providers of applications software for the Windows
31   operating system in order to provide maximum choice
32   for the consumer.

33   61. The problem of choice restriction is more critical
34   when it comes to network products being able to
35   interoperate with Windows operating systems clients.
36   Companies have not deployed parallel networks for more

1 than two decades, and are not about to do so now --
2 it's too expensive for organizations to install,
3 maintain, and administrate multiple networks in that
4 manner. Therefore each and every node, regardless of
5 hardware or software, needs to be able to function
6 together in order to serve the needs of the customer.

7 62. Discrimination against certain providers of network
8   implementations means, again, reduced choice for the
9   consumer, and potential network disruption when two
10   mutually antagonistic implementations exist on the
11   same network.

12 63. The RPFJ lets Microsoft legally discriminate against
13   participants in the marketplace, to continue to do the
14   same actions against some participants in the software
15   marketplace, actions that have been found to be
16   illegal.

17 64. In the Findings of Fact and in the Conclusion of Law
18   there is no discussion as to the necessity of
19   Microsoft continuing to discriminate against portions
20   of the software industry in order for Microsoft to
21   compete in the marketplace.

22   E.   The RPFJ Does Not Anticipate the Changing
23   Software Market

24 65. The software marketplace moves very, very quickly, and
25   so any remedy should anticipate likely movements in
26   the software market. It should also take statements
27   made by Defendant in ensuring that any Final Judgment
28   will apply to the software marketplace in the near
29   future, "near future" defined as the expected life of
30   the Final Judgement.

31 66. One change taking place in the software marketplace
32   today is the migration of software from an end user's
33   computer to a network-based synergy between the user's
34   computer and a remote network-connected server, with
35   the software residing on the server. The paradigm of

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1   this form of software execution is different from the
2   currently common "client-server" configuration: In
3   client-server software, a software package installed
4   on the user's computer is called up and executed, and
5   as required the software package would exchange data
6   with a remote server computer. In the new paradigm,
7   the software is not installed onto the user's
8   computer, but instead is installed on an "application
9   server" run by an applications server provider (ASP;
10   not to be confused with "active server pages").
11   During the course of running the program, small pieces
12   of the program are transferred to the RAM of the
13   user's computer "on demand" and execute on the user's
14   computer. When the user exits from the program, all
15   traces of the program are removed from the user's
16   computer.

17 67. The details surrounding this trend with respect to
18   Microsoft Windows on both the desktop and on the
19   server, as embodied in its dot-NET XML Web services
20   architecture, are still being developed; the
21   technology is still in its infancy. Section
22   III(F)(ii) of the RPFJ contains language describing a
23   restriction that would, in a strict reading, permit
24   Microsoft to avoid disclosing certain communications
25   protocols between client and server operating system
26   components when the server operating system implements
27   it natively but the client requires that certain
28   software be installed by the user, or even perhaps
29   automatically as an "update."

30 68. Another trend in the software marketplace is the
31   growth of time-based licenses, sometimes referred to
32   as subscriptions. In this model, the user subscribes
33   to use the software for a specific period of time, and
34   renews the subscription when the current one expires.
35   This form of software sale is common for software that
36   changes regularly; a good example is income-tax filing
37   software.

69. The current draft of the RPFJ does not address these
    known trends in the software market, nor how Defendant
    is prevented from using its monopoly power
    inappropriately to block software development with the
    Windows operating system or interoperability with the
    Windows operating system.

70. The direct result is that consumers will be able to
    obtain software products that seamlessly interoperate
    with Windows operating systems only from Defendant and
    those companies that meet Defendant's business and
    success requirements. Again, the consumer is deprived
    of choice that he or she would otherwise enjoy if an
    all-inclusive Final Judgment were in place.

F. The RPFJ Does Not Adequately Serve the Software Market's Need for Speedy Resolution of Complaints of Violations

71. The enforcement provisions in Section IV of the RPFJ,
    along with the commentary in IV(B)(2) of the CIS,
    shows that the Department of Justice recognizes that
    the pace of software development is much faster than
    in the traditional manufacturing sectors, and
    understand the need for a procedure to permit
    companies in this fast-paced industry to obtain relief
    from violations without the delay inherent in a Court-
    mediated action.

72. The RPFJ, at Section IV(D)(c), states that Microsoft
    will have 30 days to resolve or reject a complaint.
    As a matter of practice in professional software
    development, project schedules are broken down into
    tasks that can be completed in a small number of days.
    In multi-person projects, the tasks are highly
    interdependent, such that a delay in one task being
    done by one person can severely impact the ability of
    the software team to complete the project by the
    deadline -- that task, and any complaint of violation
    associated with the task, quickly becomes a part of

1 the "critical path" for the project and a huge risk

2 for the project as a whole.

3 73. For the non-commercial and low-capitalization

4 developer, the lack of any avenue for timely

5 resolution has a more disastrous effect: the

6 developer must work around the lack of information (or

7 the inaccurate information, or the withheld

8 information), must seek the use of another operating

9 system (good luck!), or must give up on the project

10 altogether. Many research projects have a finite

11 amount of time allocated to them, and any hitch in the

12 setting up of a project means the research is not

13 completed. While there is no monetary harm, the non-

14 monetary harm to the public interest can be large

15 indeed - what would happen if a researcher was unable

16 to complete an experiment that would provide a sure

17 cure for cancer?

18 74. The RPFJ's dispute procedure is too cumbersome for an

19 industry that can produce a usable product in very

20 short time intervals. As an example, Commenter has

21 developed commercial software that, from initial

22 design on a restaurant napkin to first installation,

23 required 120 man-hours and was installed at a customer

24 site eight days from "go."

25 75. This unnecessary opportunity for delay is against the

26 public interest by delaying product completion by

27 smaller companies in the face of violations by

28 Defendant. <u>This takes away consumer choice</u> when two

29 companies (one large, one small) are offering

30 competing applications, and the large company gets to

31 market faster because of the actions of the Defendant.

32 ## G.   Proposals to Enhance Enforcement Provisions

33 76. <u>Commenter proposes that a tiered approach may be</u>

34 <u>preferable</u>, designed to minimize the effort on the

35 part of the Technical Committee and on the part of

36 Microsoft. Many complaints will be without merit due

1   to the complainant not understanding the Final
2   Judgment and not understanding the obligations
3   Microsoft has under the Final Judgement. Some will be
4   nuisance complaints, to be disposed of as quickly and
5   as inexpensively as possible. Some complaints will be
6   duplicates of prior complaints, so the same answers
7   can be provided at a considerable savings in time to
8   all. Finally, some complaints (one would hope few in
9   number) will require investigation and negotiation and
10 thus require some time and attention from the
11 Technical Committee and the Microsoft Compliance
12 Officer.

13 77.   The Technical Committee staff and the Microsoft
14   Compliance Officer staff can perform triage on
15   complaints as they are received, said triage being
16   completed quickly and in no case later than 48 hours
17   after receipt of the complaint. In some disclosure
18   violation cases, the matter can be resolved simply and
19   quickly by staff recognizing (by precedent) that
20   Microsoft needs to provide the information required by
21   the Final Judgment to the complainant; this is
22   particularly true of violations that are caused
23   inadvertently, by clerical error, unintended
24   withholding of information due to system or media
25   failures, or obvious misunderstandings by Microsoft
26   employees. In this manner, many complaints can be
27   resolved quickly with a minimum of fuss and delay;
28   done quickly, the complaint can be turned around in
29   hours, not days.

30 78.   The same triage process can also speed the
31   determination whether a particular complaint has no
32   potential merit, weeding out the obvious losers very
33   quickly and with little effort expended, and again
34   eliminating delay for the complainant getting an
35   answer to his problem, even if it's a negative one.

36 79.   Once the complaint has been passed through triage as a
37   complaint with potential merit, the process is as
28   currently described in the RPFJ.

80. <u>Commenter proposes a change in requirements for disclosure.</u> One way to reduce the number of complaints filed is for the Microsoft Compliance Officer to be required to publish a list of "Frequently Asked Questions" as part of the Web page described in the RPFJ Section IV(D)(3)(b), based in part on complaints received by the Compliance Officer and based in part by complaints anticipated by Microsoft. The format of the questions and answers is up to the Officer, and subject to review by the Technical Committee and by Plaintiffs for accuracy.

H.   Conclusion

81. Any Proposed Final Judgment is a balancing act. The PFJ needs to reflect both the needs of the Defendant to continue to compete effectively in the market, while protecting the industry from inappropriate activity by monopoly participants.

82. The RPFJ achieves the appropriate balance for other large commercial software providers.

83. The RPFJ fails to achieve the appropriate balance when the rest of the software market is considered. The legal discrimination against software providers that do not follow the classic retail software model puts alternative-business-model providers, inside-system developers, and not-for-profit developers at a significant disadvantage.

84. The original Proposed Final Judgment included breaking up Microsoft into multiple companies along functional lines: at least into an operating system company and an applications program company. This option also fails the balance test, in that Microsoft would then be forced to break up its development team, significantly hurting each daughter company's ability to compete. More importantly, the break-up option also suffers from the defect that it would harm the

1 industry as a whole as existing contracts would have
2 to be renegotiated with haste.

3 85. The Revised Proposed Final Judgment can be better
4 balanced, and as an added benefit simplified, by
5 removing all of the exceptions to the disclosure
6 provisions contained in it. This lets all
7 participants -- from single-person programming firms
8 to multi-billion dollar enterprises -- enjoy
9 protection, under the modified RPFJ, from
10 inappropriate action by Microsoft. Microsoft's
11 ability to compete on inventions (patents), features,
12 timeliness of delivery, and integration across the
13 product line would not be impaired, and therefore an
14 appropriate balance is maintained between healthy
15 competition and anti-competitive actions.

16   (end)